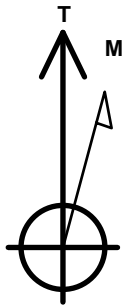


# PDC Energy Inc. DJ Basin

Well Name: **J Clark 7N (Nio C)**  
 Surface Location: Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W  
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone  
 Ground Elevation: 4615.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1391636.25 3242680.95 40.405170 -104.628566  
 Original Well Elev WELL @ 4638.0ft (Original Well Elev)

## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 550'FNL & 2084'FEL, Sec.14	1.0	0.0	0.0	Point
BHL 500'FNL & 1800'FWL, Sec.11	6848.0	5375.2	-1410.5	Point
LPL 50'FSL & 1854'FWL, Sec.11	6873.0	595.2	-1320.7	Point



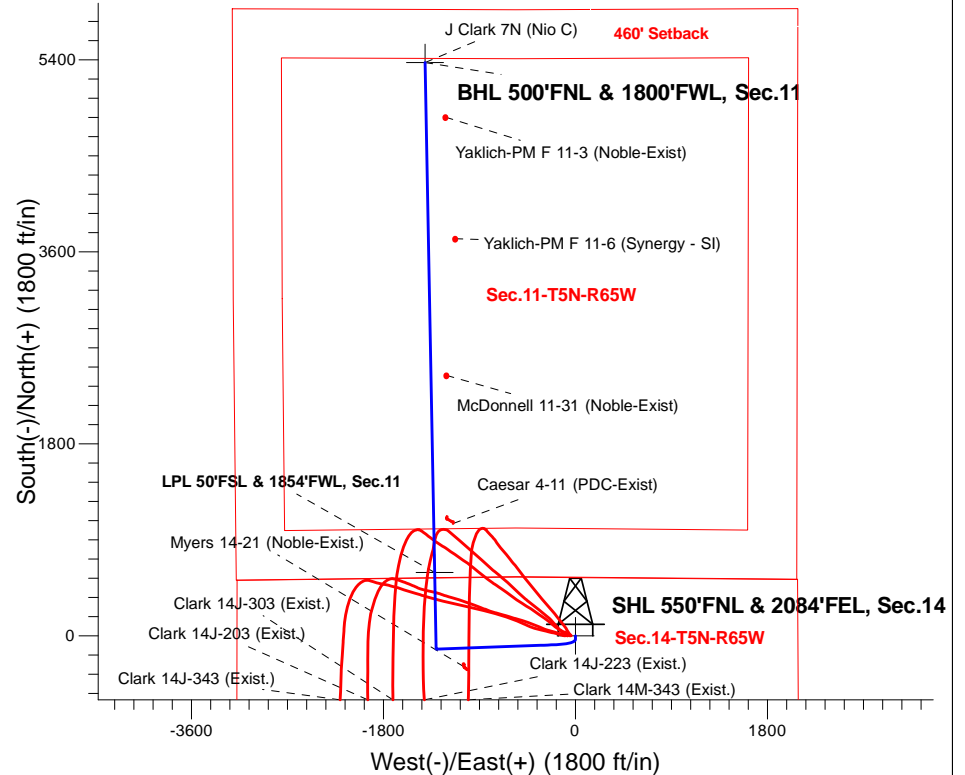
Azimuths to True North  
 Magnetic North: 7.91°

Magnetic Field  
 Strength: 52463.7snT  
 Dip Angle: 66.85°  
 Date: 12/19/2017  
 Model: IGRF2010

Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W  
 J Clark 7N (Nio C)  
 Plan #1 (1-10-18)  
 12:23, January 12 2018

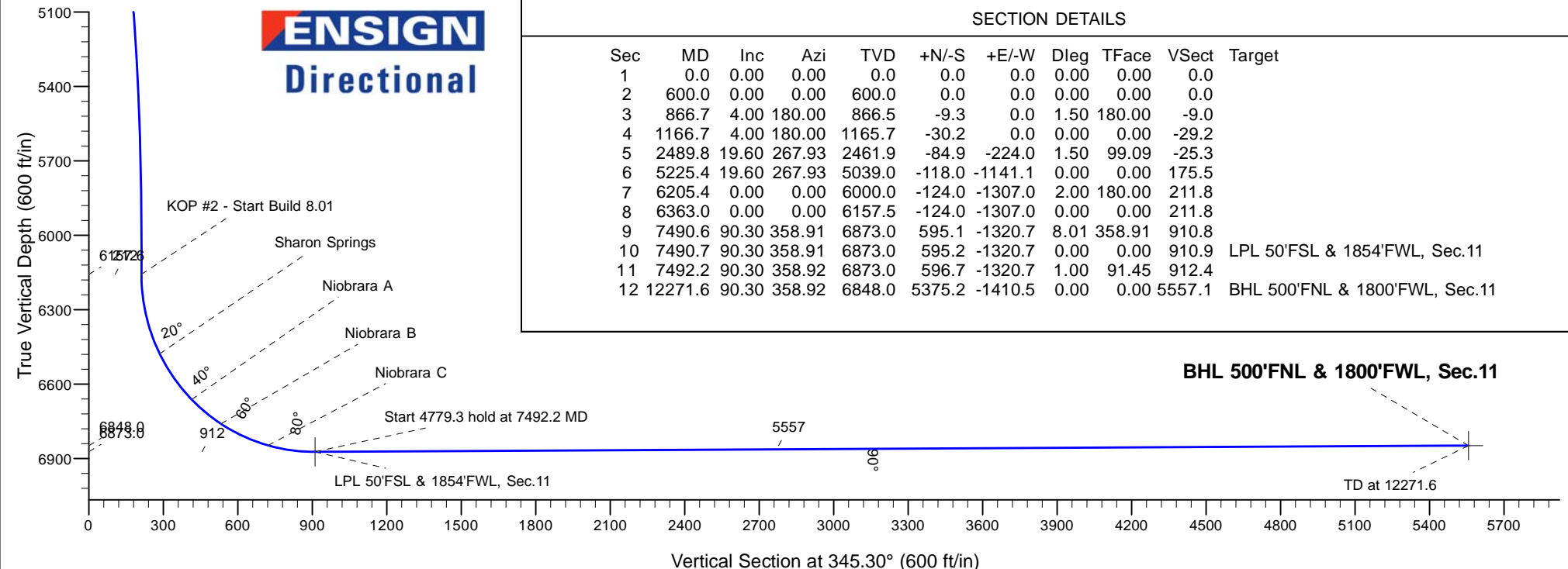
## ANNOTATIONS

TVD	MD	Annotation
600.0	600.0	KOP - Start Build 1.50
866.5	866.7	Start 300.0 hold at 866.7 MD
1165.7	1166.7	Start DLS 1.50 TFO 99.09
5039.0	5225.4	Start Drop -2.00
6157.6	6363.0	KOP #2 - Start Build 8.01
6873.0	7492.2	Start 4779.3 hold at 7492.2 MD
6848.0	12271.6	TD at 12271.6



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0	
3	866.7	4.00	180.00	866.5	-9.3	0.0	1.50	180.00	-9.0	
4	1166.7	4.00	180.00	1165.7	-30.2	0.0	0.00	0.00	-29.2	
5	2489.8	19.60	267.93	2461.9	-84.9	-224.0	1.50	99.09	-25.3	
6	5225.4	19.60	267.93	5039.0	-118.0	-1141.1	0.00	0.00	175.5	
7	6205.4	0.00	0.00	6000.0	-124.0	-1307.0	2.00	180.00	211.8	
8	6363.0	0.00	0.00	6157.5	-124.0	-1307.0	0.00	0.00	211.8	
9	7490.6	90.30	358.91	6873.0	595.1	-1320.7	8.01	358.91	910.8	
10	7490.7	90.30	358.91	6873.0	595.2	-1320.7	0.00	0.00	910.9	LPL 50'FSL & 1854'FWL, Sec.11
11	7492.2	90.30	358.92	6873.0	596.7	-1320.7	1.00	91.45	912.4	
12	12271.6	90.30	358.92	6848.0	5375.2	-1410.5	0.00	0.00	5557.1	BHL 500'FNL & 1800'FWL, Sec.11





## **PDC Energy Inc. DJ Basin**

**SEC.14-T5N-R65W**

**Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W**

**J Clark 7N (Nio C)**

**Wellbore #1**

**Plan #1 (1-10-18)**

## **Anticollision Summary Report**

**12 January, 2018**



<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well J Clark 7N (Nio C)
<b>Project:</b>	SEC.14-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	J Clark 7N (Nio C)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (1-10-18)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (1-10-18)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 50.0ft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 800.0 ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.45 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	1/12/2018		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	12,271.6	Plan #1 (1-10-18) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W						
J Clark 10N (Nio B) - Wellbore #1 - Plan #1 (12-18-17)	657.8	657.8	45.0	41.7	13.519	CC
J Clark 10N (Nio B) - Wellbore #1 - Plan #1 (12-18-17)	800.0	799.9	45.2	41.2	11.191	ES
J Clark 10N (Nio B) - Wellbore #1 - Plan #1 (12-18-17)	1,200.0	1,199.0	55.4	49.2	8.959	SF
J Clark 11N (Nio C) - Wellbore #1 - Plan #1 (12-18-17)	666.7	666.7	60.0	56.6	17.784	CC
J Clark 11N (Nio C) - Wellbore #1 - Plan #1 (12-18-17)	800.0	799.9	60.2	56.1	14.887	ES
J Clark 11N (Nio C) - Wellbore #1 - Plan #1 (12-18-17)	1,300.0	1,298.7	73.3	66.5	10.885	SF
J Clark 12N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	674.6	674.6	75.0	71.6	21.970	CC
J Clark 12N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	850.0	849.8	75.4	71.1	17.532	ES
J Clark 12N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	1,350.0	1,348.6	89.6	82.6	12.778	SF
J Clark 13N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	681.5	681.5	90.0	86.5	26.086	CC
J Clark 13N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	850.0	849.8	90.3	86.0	21.001	ES
J Clark 13N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	1,400.0	1,398.4	106.7	99.5	14.647	SF
J Clark 1C (Codell) - Wellbore #1 - Plan #1 (1-10-18)	182.6	184.6	165.1	164.4	224.388	CC
J Clark 1C (Codell) - Wellbore #1 - Plan #1 (1-10-18)	200.0	200.0	165.1	164.3	199.927	ES
J Clark 1C (Codell) - Wellbore #1 - Plan #1 (1-10-18)	3,350.0	3,048.2	796.9	775.0	36.430	SF
J Clark 2N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	382.6	384.6	150.1	148.3	81.708	CC
J Clark 2N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	400.0	401.9	150.1	148.2	77.687	ES
J Clark 2N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	2,800.0	2,600.0	519.8	502.8	30.675	SF
J Clark 3N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	298.4	300.4	135.1	133.8	100.555	CC
J Clark 3N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	500.0	500.0	135.4	133.0	55.954	ES
J Clark 3N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	4,400.0	4,190.2	793.3	763.2	26.349	SF
J Clark 4N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	292.7	294.7	120.1	118.8	91.404	CC
J Clark 4N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	500.0	501.6	120.6	118.1	49.595	ES
J Clark 4N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	12,271.6	12,398.6	756.9	498.4	2.928	SF
J Clark 5N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	247.2	247.2	30.0	29.0	28.010	CC
J Clark 5N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	350.0	349.9	30.1	28.5	18.737	ES
J Clark 5N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	12,271.6	12,411.1	500.0	241.3	1.933	SF
J Clark 6N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	433.4	433.4	15.0	12.9	7.148	CC
J Clark 6N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	12,271.6	12,258.4	262.4	10.8	1.043	Level 2, ES, SF
J Clark 8N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	633.4	633.4	15.0	11.8	4.681	CC
J Clark 8N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	750.0	750.0	15.2	11.4	4.018	ES
J Clark 8N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	12,271.6	12,156.4	259.6	12.1	1.049	Level 2, SF
J Clark 9C (Codell) - Wellbore #1 - Plan #1 (1-10-18)	648.2	648.2	30.0	26.7	9.152	CC
J Clark 9C (Codell) - Wellbore #1 - Plan #1 (1-10-18)	750.0	750.0	30.1	26.3	7.938	ES
J Clark 9C (Codell) - Wellbore #1 - Plan #1 (1-10-18)	12,271.6	12,258.5	508.1	252.1	1.985	SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well J Clark 7N (Nio C)
<b>Project:</b>	SEC.14-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	J Clark 7N (Nio C)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (1-10-18)	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Clark 5N65W14EJ Pad Sec.14-T5N-R65W						
Clark 14J-203 (Exist.) - Wellbore #1 - Wellbore #1	0.0	1.0	89.9	89.9	10,000.000	CC
Clark 14J-203 (Exist.) - Wellbore #1 - Wellbore #1	150.0	150.6	90.2	89.7	186.854	ES
Clark 14J-203 (Exist.) - Wellbore #1 - Wellbore #1	5,500.0	5,417.9	611.8	550.2	9.930	SF
Clark 14J-223 (Exist.) - Wellbore #1 - Wellbore #1	727.8	729.1	58.1	54.5	16.421	CC
Clark 14J-223 (Exist.) - Wellbore #1 - Wellbore #1	7,200.0	7,413.1	100.4	54.4	2.184	ES, SF
Clark 14J-303 (Exist.) - Wellbore #1 - Wellbore #1	583.5	584.5	73.2	70.5	26.408	CC
Clark 14J-303 (Exist.) - Wellbore #1 - Wellbore #1	600.0	600.8	73.3	70.4	25.616	ES
Clark 14J-303 (Exist.) - Wellbore #1 - Wellbore #1	7,600.0	7,147.8	359.8	304.7	6.528	SF
Clark 14J-343 (Exist.) - Wellbore #1 - Wellbore #1	180.4	181.4	104.5	103.9	163.623	CC
Clark 14J-343 (Exist.) - Wellbore #1 - Wellbore #1	200.0	200.6	104.5	103.8	141.235	ES
Clark 14J-343 (Exist.) - Wellbore #1 - Wellbore #1	5,550.0	5,441.8	705.3	646.7	12.038	SF
Clark 14M-343 (Exist.) - Wellbore #1 - Wellbore #1	768.3	768.5	42.1	38.4	11.414	CC
Clark 14M-343 (Exist.) - Wellbore #1 - Wellbore #1	800.0	800.2	42.2	38.3	10.973	ES
Clark 14M-343 (Exist.) - Wellbore #1 - Wellbore #1	7,350.0	7,317.9	324.5	278.2	7.012	SF
Existing Wells Sec.11-T5N-R65W						
Caesar 4-11 (PDC-Exist) - Wellbore #1 - Wellbore #1	7,951.0	6,850.2	181.9	130.6	3.549	CC, ES, SF
McDonnell 11-31 (Noble-Exist) - Wellbore #1 - Wellbore #	9,335.9	6,840.4	144.0	-85.5	0.628	Level 1, CC, ES, SF
Yaklich-PM F 11-3 (Noble-Exist) - Wellbore #1 - Wellbore	11,757.3	6,824.7	179.6	-104.9	0.631	Level 1, CC, ES, SF
Yaklich-PM F 11-6 (Synergy - SI) - Wellbore #1 - Wellbor	10,614.7	6,827.7	250.6	-7.6	0.970	Level 1, CC, ES, SF
Existing Wells Sec.14-T5N-R65W						
Myers 14-21 (Noble-Exist.) - Wellbore #1 - Wellbore #1	4,932.9	4,740.3	180.3	140.6	4.544	CC
Myers 14-21 (Noble-Exist.) - Wellbore #1 - Wellbore #1	4,950.0	4,756.4	180.4	140.4	4.518	ES
Myers 14-21 (Noble-Exist.) - Wellbore #1 - Wellbore #1	5,000.0	4,803.2	181.8	141.2	4.484	SF

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well J Clark 7N (Nio C)
<b>Project:</b>	SEC.14-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	J Clark 7N (Nio C)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (1-10-18)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4638.0ft (Original Well Elev)

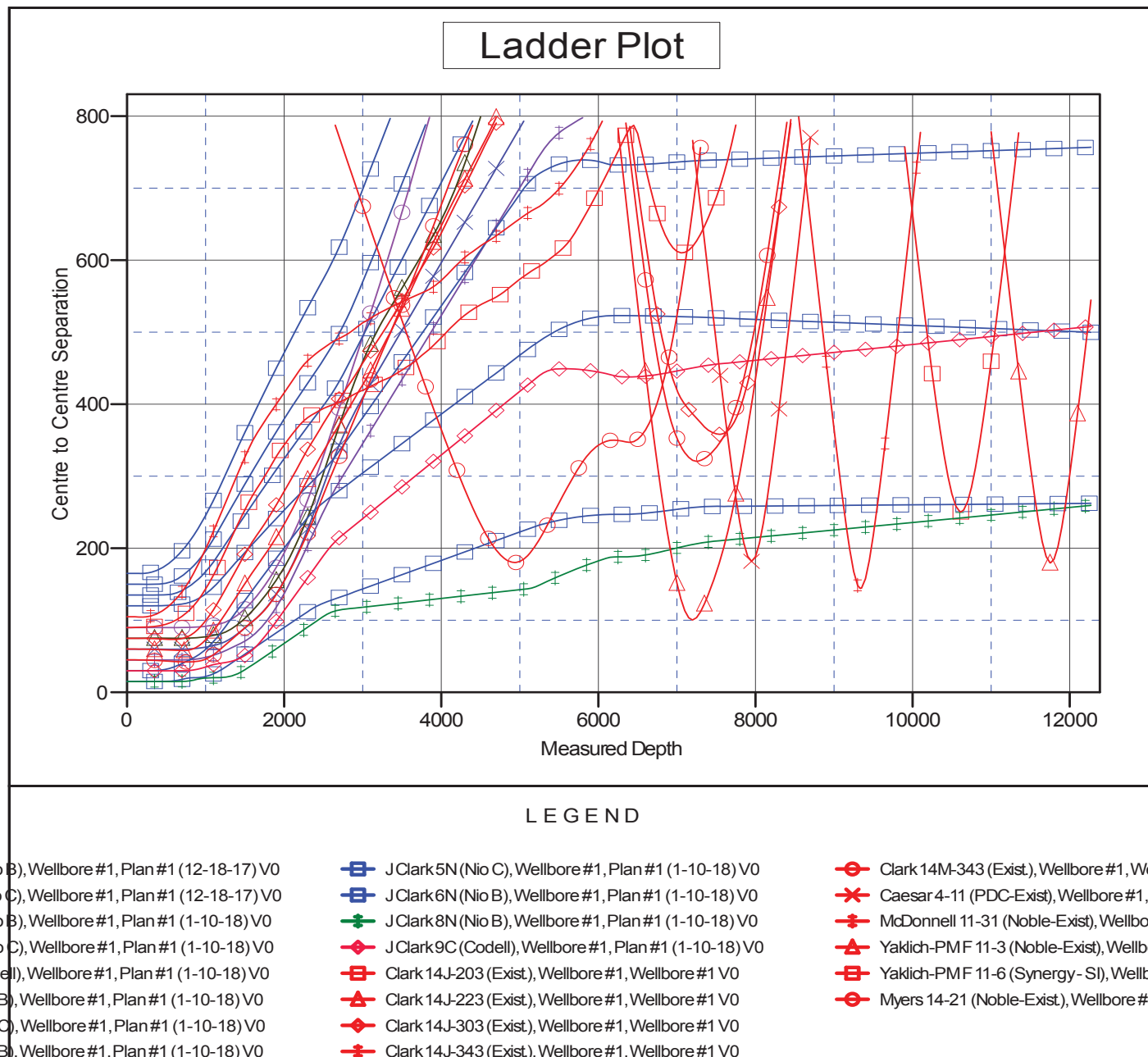
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: J Clark 7N (Nio C)

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.56°



<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well J Clark 7N (Nio C)
<b>Project:</b>	SEC.14-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Reference Site:</b>	Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W	<b>MD Reference:</b>	WELL @ 4638.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	J Clark 7N (Nio C)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (1-10-18)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4638.0ft (Original Well Elev)

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: J Clark 7N (Nio C)

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.56°

